

IN THE CLAIMS

Please amend the claims as follows:

Sub D2
3. (Twice Amended) The process as recited in claim [2] 1 [and wherein] further including:
[the (CVD) process is carried] carrying out each of the (CVD) processes in a cold wall (CVD) reaction chamber.

4. (Twice Amended) The process as recited in claim [3] 1 [and wherein] further including:
[the (CVD) process is carried] carrying out each of the (CVD) processes at a temperature of about 400° C or less.

Sub D1
10. (Twice Amended) The semiconductor manufacturing process as recited in claim [9] 8 [and wherein] further including:
[the (CVD) process is performed] performing each of the (CVD) processes in a cold wall (CVD) system.

Sub D6
20. (Amended) The process as recited in claim 18 further including:
carrying out each of the (CVD) [process] processes in a cold wall (CVD) reaction chamber.

21. (Amended) The process as recited in claim 18 further including:
carrying out each of the (CVD) [process] processes at a temperature of about 400° C. or less.

Sub D8
27. (Amended) The semiconductor manufacturing process as recited in claim 24 further including:
performing each of the (CVD) [process] processes in a cold wall (CVD) system.

Please add the following claims:

33. A process for depositing a tungsten silicide film on a substrate consisting essentially of:
depositing a nucleation layer of tungsten silicide (WSi_x) on the substrate using a (CVD)
process with a silane (SiH₄) silicon source gas and a reactant gas;
depositing a film of tungsten silicide (WSi_x) on the discontinuous nucleation layer using
a (CVD) process by switching to dichlorosilane (SiH₂Cl₂) as a silicon source gas
such that the dichlorosilane gas reacts with the reactant gas to form the tungsten
silicide film; and
wherein said depositing said nucleation layer of tungsten silicide and said depositing
said film of tungsten silicide occur at a substantially equivalent temperature.
34. The process as recited in claim 33 further including:
introducing tungsten hexafluoride (WF₆) as a reactant gas for reaction with the silane
and the dichlorosilane.
35. The process as recited in claim 33 further including:
carrying out each of the (CVD) processes in a cold wall (CVD) reaction chamber.
36. The process as recited in claim 33 further including:
carrying out each of the (CVD) processes at a temperature of about 400°C. or less.
37. The process as recited in claim 33 further including:
mixing the silane or dichlorosilane silicon source gas, the reactant gas and a carrier gas
in a premix chamber.
38. The process as recited in claim 37 wherein:
a flow rate of the carrier gas is about five to ten times a flow rate of the silane or
dichlorosilane silicon source gas.

39. A semiconductor manufacturing process for depositing a tungsten silicide film on a substrate consisting essentially of:

depositing a discontinuous nucleation layer of tungsten silicide (WSi_x) on the substrate using a (CVD) process and reacting a silane (SiH₄) silicon source gas with a reactant gas in a CVD system having a premix chamber for combining the silicon source gas and the reactant gas; and
depositing a film of tungsten silicide (WSi_x) on the discontinuous nucleation layer using a (CVD) process by switching to dichlorosilane (SiH₂Cl₂) as a silicon source gas such that the dichlorosilane gas reacts with the reactant gas to form the tungsten silicide film.

40. The semiconductor manufacturing process as recited in claim 39 and wherein: said depositing said discontinuous nucleation layer of tungsten silicide and said depositing said film of tungsten silicide occur at a substantially equivalent temperature.

41. The semiconductor manufacturing process as recited in claim 39 further including: introducing tungsten hexafluoride (WF₆) as the reactant gas.

42. The semiconductor manufacturing process as recited in claim 39 further including: performing each of the (CVD) processes in a cold wall (CVD) system.

43. The semiconductor manufacturing process as recited in claim 42 wherein: the cold wall (CVD) system includes the premix chamber, a reaction chamber, a graphite boat for holding a plurality of silicon wafers, and means for heating the silicon wafers.

44. The semiconductor manufacturing process as recited in claim 39 wherein: heating the substrate to a temperature of between about 200° and 500°C., and wherein

said substrate comprises a silicon wafer.

45. The semiconductor manufacturing process as recited in claim 39 further including:
depositing of the discontinuous nucleation layer for a timespan between about 1 and 25
seconds.
46. The semiconductor manufacturing process as recited in claim 39 further including:
a carrier gas comprising a mixture of Argon, Nitrogen, and Helium.
47. The semiconductor manufacturing process as recited in claim 46 further including:
introducing the silane silicon source gas at about 400 sccm;
introducing the reactant gas at about 4 sccm; and
introducing a carrier gas at about 2800 sccm.

SUPPORT FOR AMENDMENTS

No new matter has been added.

The amendment of claims 3, 4, 10, 20, 21, and 27 to include reference to "each of the (CVD) processes" finds support in the specification at column 2, lines 36-40, at column 2 line 67 through column 3, line 1, and at column 3, lines 4-6. The specification specifically indicates that the "two step process...can be performed in a cold wall (CVD) system." See, Specification, col. 2, lines 36-40.

Added claims 33-47 mirror claims 18-32 except that the claim language "comprising" found in independent claims 18 and 24 has been changed in claims 33 and 39 to recite the language "consisting essentially of." The change in claims 33 and 39 to "consisting essentially of" further limits the scope of claims 33-47. The plasma ignition step of Price falls outside of the scope of claims 33-47 and fails to render claims 33-47 obvious under 35 U.S.C. § 103(a).